33. (Amended) The coated implant of claim 27, said coating comprising one or more of amorphous carbonate calcium phosphate, hydroxyapatite, calcium deficient apatite, hydroxyl carbonate apatite, octacalcium phosphate, dicalcium phosphate dihydrate or calcium carbonate.

36. (Twice Amended) A coated implant comprising an implant, a first coating, and a second coating, wherein said first coating comprises a deposit of crystals nucleated directly onto the implant from solution with the coating having an average bond strength to the implant of between 40 to 65 Mpa wherein said first coating comprises magnesium ions, calcium ions, and phosphate ions, and wherein said coating induces formation of bone cells from progenitor cells,

wherein the second coating comprises calcium and phosphate ions.

37. (Amended) The coated implant of claim 36 wherein the second coating comprising calcium and phosphate ions further comprises octacalcium phosphate.

Please add the following new claims:

--39. (New) A coated implant comprising an implant and a coating, wherein said coating comprises a deposit of octacalcium phosphate crystals nucleated directly onto the implant from solution, and wherein said coating induces formation of bone cells from progenitor cells.

40. (New) The implant of claim 39 wherein said implant is formed from one or more of metal, organic material, polymer, or ceramic.

41. (New) The implant of claim 39 wherein the implant is treated by a mechanical or chemical surface treatment before said coating is applied to said device.

42. (New) The implant of claim 39 wherein the implant is treated by sand-blasting, scoring, polishing, or grounding.

43. (New) The implant of claim 39 wherein the implant is treated by contacting with strong mineral acid or an oxidizing agent in a manner to etch the implant.

44. (New) The coated implant of claim 39 wherein the coating has a thickness of about 0.5 to about 100 microns.

45. (New) The coated implant of claim 39 wherein the coating has a thickness of about 0.5 to about 50 microns.--